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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, HOAN C

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 01/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/380,256

Applicant(s)

FARIS ET AL.

Examiner

HOAN C. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,9,10,13,17,28-31,68,69 and 102-112 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1, 3, 9, 10, 13, 17, 28-31, 68-69 and 102-112 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

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DETAILED ACTION***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/23/2002 has been entered.

Applicants requested reconsideration of pending claims 1, 3, 9, 10, 13, 17, 28-31, 68, 69 and 102-112.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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1. Claims 1, 3, 102 and 103 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. US5940150A. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-4 of U.S. Patent No. US5940150A are narrower than claims 1, 3, 102 and 103 of present application.
2. Claims 1, 9-10, 102 and 104-105 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 3, 4 and 8-9 of U.S. Patent No. US5940150A. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 2, 3, 4 and 8-9 of U.S. Patent No. US5940150A are narrower than claims 1, 9-10, 102 and 104-105 of the present application.
3. Claims 1 and 13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 12 of U.S. Patent No. US5940150A. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 2 and 12 of U.S. Patent No. US5940150A are narrower than claims 1 and 13 of present application.
4. Claims 1, 17 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 14 of U.S. Patent No. US5940150A. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 2

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and 14 of U.S. Patent No. US5940150A are narrower than claims 1, 17 and 28 of present application.

5. Claims 1 and 30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 25 of U.S. Patent No. US5940150A. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 2 and 25 of U.S. Patent No. US5940150A are narrower than claims 1 and 30 of present application.

6. Claims 1, 31, 102 and 111 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 3 and 24 of U.S. Patent No. US5940150A. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 2, 3 and 24 of U.S. Patent No. US5940150A are narrower than claims 1, 31, 102 and 111 of present application.

7. Claims 102 and 110 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3 and 14 of U.S. Patent No. US5940150A. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 3 and 14 of U.S. Patent No. US5940150A are narrower than claims 102 and 110 of present application.

8. Claims 1, 79, 102 and 112 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3 and 10 of U.S. Patent No. US5940150A. Although the conflicting claims are

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not identical, they are not patentably distinct from each other because claims 1, 3 and 10 of U.S. Patent No. US5940150A are narrower than claims 102 and 112 of present application.

9. Claims 1, 29, 102 and 109 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 and 25 of U.S. Patent No. US5940150A in view of Lynam (US5239406A).

Lynam (Fig. 9, col. 20, lines 54-57) discloses the electro-electric glazing structure, wherein an ultraviolet reflecting layer 67 for protecting the electro-electric glazing structure from degradation due to ultraviolet radiation (col. 1, lines 35-40).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electro-electric glazing structure with an ultraviolet reflecting layer for protecting the electro-electric glazing structure from degradation due to ultraviolet radiation.

Claims 69 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 and 25 of U.S. Patent No. US5940150A in view of Sakata (US4729640). Sakata (Figs. 24A-C, col. 1, lines 37-42) discloses a light modulation or an electro-optical glazing structure (same device with different use) comprising:

(a) an electro-optical glazing panel of laminated construction having first and second optical states of operations;

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(b) optical state switching means to change voltage for switching electro-optical glazing panel to first optical state of operation in order to induce electro-optical glazing structure into reflection mode of operation and for switching electro-optical glazing panel to second optical state of operation in order induce electro-optical glazing structure into transmission mode of operation;

wherein electromagnetic radiation within a first pre-specified bandwidth falling incident upon the electro-optical panel is totally reflection from the electro-optical panel without absorption (Fig. 24A, col. 23, lines 10-15);

wherein electromagnetic radiation within a second pre-specified bandwidth (that must different from first bandwidth for total reflection) falling incident upon the electro-optical panel is totally transmission from the electro-optical panel without absorption (Fig. 24C, lines 27-32).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electro-electric glazing structure; wherein electromagnetic radiation within a first pre-specified bandwidth falling incident upon the electro-optical panel is totally reflection from the electro-optical panel without absorption; wherein electromagnetic radiation within a second pre-specified bandwidth (that must different from first bandwidth for total reflection) falling incident upon the electro-optical panel is totally transmission from the electro-optical panel without absorption for manipulating EM radiation through the electro-electric glazing structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3, 102 and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. (US5686979) in view of Sharp et al. (US5528393A).

In regard to claims 1 and 102, Weber et al. (Figs. 1-7b) disclose an electro-optical glazing structure comprising

(a) an electro-optical glazing panel of laminated construction having first and second optical states of operations; wherein the electro-optic glazing structure separately controls the transmission and reflection of visible light;

(b) optical state switching means for switching electro-optical glazing panel to first optical state of operation in order to induce electro-optical glazing structure into reflection mode of operation and for switching electro-optical glazing panel to second optical state of operation in order induce electro-optical glazing structure into transmission mode of operation as Figs. 3 and 4 shown.

However, Weber et al. fail to disclose an electro-optical glazing panel comprising

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- first electrically-passive liquid crystal electromagnetic radiation polarizing panel/second electrically-passive liquid crystal electromagnetic radiation polarizing panel/an electrically-active π -phase retardation panel interposed between the first and second electrically-active liquid crystal electromagnetic radiation polarizing panels (claim 1).
- first electrically-active liquid crystal electromagnetic radiation polarizing panel/second electrically-active liquid crystal electromagnetic radiation polarizing panel/an electrically-passive π -phase retardation panel interposed between the first and second electrically-active liquid crystal electromagnetic radiation polarizing panels (claim 102).

In regard to claims 102 and 106, Sharp et al. (Figs. 2b-2d, col. 7, line 9 to col. 8 line 6) disclose the electro-electric glazing structure or split-element liquid crystal tunable optical filter (again both having same structure with different use) comprising:

- first electrically-active/tunable liquid crystal electromagnetic radiation polarizing panel 40 or 50;
- second electrically-active/tunable liquid crystal electromagnetic radiation polarizing panel 45 or 55;
- an electrically-passive π -phase retardation panel 30 interposed between the first and second electrically-active liquid crystal electromagnetic radiation polarizing panels

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wherein the liquid crystal is cholesteric liquid crystal CLC (col. 15, lines 43-45).

In regard to claims 1 and 3, Sharp et al. (Fig. 5c) disclose the electro-electric glazing structure or split-element liquid crystal tunable optical filter comprising:

- first electrically-passive CLC liquid crystal electromagnetic radiation polarizing panel, which has a circularly polarization;
- second electrically-passive CLC liquid crystal electromagnetic radiation polarizing panel, which has a circularly polarization;
- an electrically-active π -phase retardation panel 30 interposed between the first and second electrically-active liquid crystal electromagnetic radiation polarizing panels.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electro-electric glazing structure as Weber et al. disclosed with comprising the feature disclosed by Sharp et al. for providing wide-field, band-pass, cut-on/off and notch transmission functions.

1. Claims 9, 13, 79, and 104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. (US5686979) in view of Sharp et al. (US5528393A) as applied to claims 1 and 47, and in further view of Baughman et al. (US5152111).

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In regard to claims 9 and 104, Baughman et al. (Figs. 1-6) teach the electro-electric glazing structure further comprising a window frame 5 for mounting the electro-electric glazing panel within house or office building (col. 1, lines 25-29).

In regard to claims 13 and 79, Baughman et al. (Figs. 4-6, col. 9, 28-58) teach the composite electro-electric glazing structure comprising a plurality of the electro-electric glazing structure (7/14/11 and 7'/14'/11'), wherein the composite electro-electric glazing structure has more than two optical states of operation which permit complex levels of electromagnetic radiation control. Besides, words "complex levels" is relative term (see 112 rejection above).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electro-electric glazing structure as Weber et al. disclosed with (a) a window frame 5 for mounting the electro-electric glazing panel within house or office building; (b) a plurality of the electro-electric glazing structure for manipulating the electromagnetic radiation control; (c) a means with preventing heat or IR for further controlling electromagnetic radiation incident on the electro-optical panel; (d) a layer of mixture of a polymer and a liquid crystal material for effective in dynamic scattering at room temperature.

2. Claims 17, 28, 30, 31, 107-108 and 110-111 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. (US5686979) in view of Sharp et

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al. (US5528393A) as applied to claims 1 and 102, and in further view of Meyer et al. (US5336965A).

Meyers et al. (Fig. 2-4, col. 4, lines 46-49) teach the electro-electric glazing structure wherein the transmission of the visible portion of the electromagnetic spectrum is controlled and the infrared (IR) portion of the electromagnetic spectrum is reflected. Fig. 2 shows there is an IR reflecting layer 16.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electro-electric glazing structure as Weber et al. disclosed with an IR reflecting layer 16 for preventing heat or IR transfer cross the electro-electric glazing structure (IR is presented for heat energy in the electromagnetic spectrum).

3. Claims 29 and 109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. (US5686979) in view of Sharp et al. (US5528393A) as applied to claims 1 and 102, and in view of Lynam (US5239406A).

Lynam (Fig. 9, col. 20, lines 54-57) discloses the electro-electric glazing structure, wherein an ultraviolet reflecting layer 67 for protecting the electro-electric glazing structure from degradation due to ultraviolet radiation (col. 1, lines 35-40).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electro-electric

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glazing structure as Weber et al. disclosed with an ultraviolet reflecting layer for protecting the electro-electric glazing structure from degradation due to ultraviolet radiation

4. Claims 68 and 69 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakata (US4729640) in view of Sharp et al. (US5528393A).

Sakata (Figs. 24A-C, col. 1, lines 37-42) discloses a light modulation or an electro-optical glazing structure (same device with different use) comprising:

(a) an electro-optical glazing panel of laminated construction having first and second optical states of operations;

(b) optical state switching means to change voltage for switching electro-optical glazing panel to first optical state of operation in order to induce electro-optical glazing structure into reflection mode of operation and for switching electro-optical glazing panel to second optical state of operation in order induce electro-optical glazing structure into transmission mode of operation;

wherein electromagnetic radiation within a first pre-specified bandwidth falling incident upon the electro-optical panel is totally reflection from the electro-optical panel without absorption (Fig. 24A, col. 23, lines 10-15);

wherein electromagnetic radiation within a second pre-specified bandwidth (that must different from first bandwidth for total reflection) falling incident upon the electro-optical panel is totally transmission from the electro-optical panel without absorption (Fig. 24C, lines 27-32).

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However, Sakata fails to disclose an electro-optical glazing panel comprising first electrically-active liquid crystal electromagnetic radiation polarizing panel/second electrically-active liquid crystal electromagnetic radiation polarizing panel/an electrically-passive π -phase retardation panel interposed between the first and second electrically-active liquid crystal electromagnetic radiation polarizing panels (claim 102).

Sharp et al. (Figs. 2b-2d, col. 7, line 9 to col. 8 line 6) disclose the electro-electric glazing structure or split-element liquid crystal tunable optical filter (again both having same structure with different use) comprising:

- first electrically-active/tunable liquid crystal electromagnetic radiation polarizing panel 40 or 50;
- second electrically-active/tunable liquid crystal electromagnetic radiation polarizing panel 45 or 55;
- an electrically-passive π -phase retardation panel 30 interposed between the first and second electrically-active liquid crystal electromagnetic radiation polarizing panels wherein the liquid crystal is cholesteric liquid crystal CLC (col. 15, lines 43-45).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electro-electric glazing structure as Sakata disclosed with comprising the feature disclosed by

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Sharp et al. for providing wide-field, band-pass, cut-on/off and notch transmission functions.

2. Claims 10 and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. (US5686979) in view of Sharp et al. (US5528393A) as applied to claims 1 and 47, and in further view of Baughman et al. (US5152111) as applied to claims 9 and 104, and in further view of Walsh et al. (US5734919).

Walsh et al. teach the notebook palm-top computer or electro-electric glazing structure further comprising:

- a electromagnetic sensor (heating sensor 140, col. 11 lines 1-3) on the window frame for sensing heating/electromagnetic conditions;
- a battery supply (col. 2 lines 7-14) mounted within the window (or notebook) frame;
- a electromagnetic-powered battery recharger (Fig. 3 lines 49-57) mounted within the window frame;
- electrical circuitry mounted within window frame for producing control voltages for switching optical states of operation;
- programmable micro-computer chip (col. 13 lines 6-13 and Fig. 9 col. 65 lines 55-57) mounted within window frame for controlling the operation of battery recharger and electrical circuitry with low consumption.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the electro-electric glazing

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structure as Weber et al. disclosed with electromagnetic sensor for sensing heating/electromagnetic conditions, battery supply for providing power, a electromagnetic-powered battery recharger for providing long-life power and programmable micro-computer chip for controlling the operation of battery recharger and electrical circuitry with low consumption.

Response to Arguments

Applicant's arguments filed on December 23, 2002 have been fully considered but they are not persuasive.

Applicant's ONLY arguments are follows:

Sharp fails to disclose any suggestion to use the device claimed in the present invention in claims 1, 68 and 102 and the claims dependent therefore an electro-optical glazing structure having reflection and transmission modes of operation for selective reflecting and transmission electromagnetic radiation.

Examiner's responses to Applicants' ONLY arguments are follows:

Sharp discloses (col. 15 line 64 to col. 16 line 2) "the filters of this invention can be in numerous application including, but not limited to, different absorption detectors, wavelength division multiplexing, optical fiber communication, multi-spectral imaging, fluorescence detectors and color generation. They can be employed multi-pixel array and can be optical

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addressed.” Therefore, the structure of split-element liquid crystal tunable optical filter can be use in the glazing device.

Sharp further discloses (col. 3 lines 32-33) “the split-element filters of this invention include both transmission and reflection configurations,” which act as a glazing structure.

Besides, “an electro-optical glazing structure” in claims 1, 68, 102 is just a “PREAMBLE”. The electro-optical glazing structures have same structure and same function with the split-element filters of Sharp et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (703) 306-0472. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

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January 16, 2003

HOAN C. NGUYEN
Examiner
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JAMES DUDEK
PRIMARY EXAMINER